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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/426,644	10/25/1999	JAE-HO MOON	1349.1022/MD	2168
21171	7590	01/29/2004	EXAMINER	
STAAS & HALSEY LLP			TUGBANG, ANTHONY D	
SUITE 700				
1201 NEW YORK AVENUE, N.W.			ART UNIT	PAPER NUMBER
WASHINGTON, DC 20005			3729	32

DATE MAILED: 01/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/426,644

Applicant(s)

MOON ET AL. *cm*

Examiner

A. Dexter Tugbang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 13-17, 19, 21, 23, 24, 27, 30, 38, 40 and 42 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 13-16, 19, 21, 23, 24, 27, 30 and 42 is/are allowed.
- 6) ☒ Claim(s) 1, 2, 17, 38 and 40 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 11/12/03 has been entered.

Specification

2. The abstract of the disclosure is objected to because the abstract appears to be greater than 150 words. Correction is required. See MPEP § 608.01(b).
3. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

5. Claims 1, 2, 38, 17 and 40 are rejected under 35 U.S.C. 102(a) as being anticipated by the Applicants' Admitted Prior Art, referred to hereinafter as the AAPA.

The AAPA (specification, pages 1-3, and Prior Art Figures 1 and 2) discloses a method of manufacturing fluid jetting apparatuses comprising forming a nozzle part 30 by a spinning process; adhering a membrane 20 to the formed nozzle part and a heat driving part 10 including fluid chambers 16 so as to position the membrane between the heat driving part and the nozzle part to separate the fluid chambers from nozzles 34 of the nozzle part; forming electrodes 13 and heating elements 14 on a first substrate wafer 11; forming driving fluid barriers 15 on the electrodes and the heating elements; forming the fluid chambers 16 in the driving fluid barriers 15; and splitting the fluid jetting apparatus in the form of the wafer into separate fluid jetting apparatuses (see Fig. 2).

With respect to the claimed "spinning process" as recited in each of claims 1 and 17, this is broadly read as being equivalent to the conventional roll method described in the Background of the Specification (pages 1-3), since the terms of "spinning" and "rolling" are interchangeable.

Regarding Claim(s) 17, the AAPA further teaches forming a nozzle part on a silicon wafer by a spinning process (lines 24-25 of page 2 in the specification).

It is noted that the step of removing the silicon wafer from the nozzle part is inherently taught by the AAPA since the final structure of the fluid jetting apparatus (shown in Fig. 1) contains no silicon wafer.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 17 and 40, alternatively, are rejected under 35 U.S.C. 103(a) as being unpatentable over the AAPA in view of Japanese Patent Publication JP 10-181029, referred to hereinafter as JP'029.

With respect to the AAPA, if applicants' do not believe that the silicon wafer is inherently removed from the nozzle part, then JP'029 shows forming multiple nozzle parts 21 (in Fig. 9) on a silicon wafer 100 in which the nozzle parts are removed from the silicon wafer to the extent of the final structure (shown in Figs. 4, 5 and 7).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the method of the AAPA by removing the silicon wafer from the nozzle part, as taught by JP'029, to positively form a plurality of nozzle parts having a high manufacturing yield (see Abstract).

Response to Arguments

8. Applicant's arguments with respect to claims 1, 2, 38, 17 and 40 have been considered but are moot in view of the new ground(s) of rejection.

Allowable Subject Matter

9. Claims 13-16, 19, 21, 23, 24, 27, 30 and 42 are allowed.

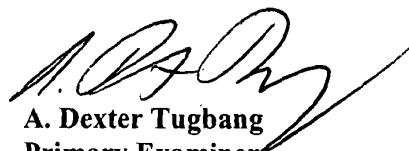
Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to A. Dexter Tugbang whose telephone number is 703-308-7599.

The examiner can normally be reached on Monday - Friday 7:00 am - 3:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Vo can be reached on 703-308-1789. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9302.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0858.


A. Dexter Tugbang
Primary Examiner
Art Unit 3729

January 26, 2004